

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) ~~Genetically~~ A genetically modified plant cell, ~~characterised in that it~~ which exhibits increased activity in at least one OK1 protein in comparison to corresponding wild type plant cells that have not been genetically modified.
2. (Currently amended) ~~Genetically~~ The genetically modified plant cell according to Claim 1, wherein the genetic modification ~~consists of the introduction of~~ comprises at least one foreign nucleic acid molecule introduced into the genome of the plant.
3. (Currently amended) ~~Genetically~~ The genetically modified plant cell according to Claim 2, wherein the foreign nucleic acid molecule codes an OK1 protein.
4. (Currently amended) ~~Plant~~ A genetically modified plant cell according to Claim 1 ~~one of Claims 1 to 3~~, which synthesises a modified starch in comparison to the corresponding wild type plant cells that have not been genetically modified.
5. (Currently amended) ~~Genetically~~ The genetically modified plant cell according to Claim 4, wherein the modified starch is ~~characterised in that it~~ has an increased starch phosphate content and/or a modified phosphate distribution.
6. (Currently amended) ~~Genetically~~ The genetically modified plant cell according to Claim 5, wherein the modified starch is ~~characterised in that it~~ has a modified C-3 phosphate to C-6 phosphate ratio.
7. (Currently amended) ~~Plant containing~~ A plant comprising one or more genetically modified plant cells according to Claim 1 ~~one of Claims 1 to 6~~.
8. (Currently amended) ~~Plant~~ A plant according to Claim 7, which is a starch-storing plant.

9. (Currently amended) ~~Plant~~ A plant according to Claim 8, which is a maize plant or wheat plant.

10. (Currently amended) Propagation material from ~~plants~~ a plant according to Claim 7 ~~one of Claims 7, 8, or 9, containing plant cells according to one of Claims 1 to 6.~~

11. (Currently amended) ~~Harvestable plant parts of a plant~~ A harvestable plant part of a plant according to Claim 7 ~~one of Claims 7, 8, or 9, containing plant cells according to one of Claims 1 to 6.~~

12. (Currently amended) ~~Method for the manufacture of~~ A method of manufacturing a genetically modified plant, ~~wherein comprising:~~

- a) ~~genetically modifying a plant cell is genetically modified, whereby, wherein~~  
the genetic modification ~~leads to an increases in the (enzymatic)~~ increases the enzymatic activity of ~~an at least one~~ OK1 protein in comparison to corresponding wild type plant cells that have not been genetically modified;
- b) ~~regenerating a plant is regenerated from one or more plant cells from step~~ Step a); and
- c) ~~if necessary, optionally producing one or more additional plants are produced with the help of from a plant the plants according to Step b).~~

13. (Currently amended) ~~Modified~~ A modified starch obtainable from a genetically modified plant according to Claim 7 ~~one of Claims 7, 8, or 9, from propagation material according to Claim 10, or from harvestable plant parts according to Claim 11.~~

14. (Currently amended) ~~Method for the manufacture of~~ A method of manufacturing a modified starch ~~including the step of comprising~~ extracting the starch from a plant cell according to Claim 1 ~~one of Claims 1 to 6.~~

15. (Currently amended) ~~Method for the manufacture of~~ A method of manufacturing a modified starch ~~including the step of comprising~~ extracting the starch from a plant according to Claim 7 ~~one of Claims 7, 8, or 9.~~

16. (Currently amended) ~~Method for the manufacture of~~ A method of manufacturing a modified starch ~~including the step of comprising~~ extracting the starch from a harvestable plant part ~~parts~~ according to Claim 11.

17. (Currently amended) ~~Method for the manufacture of~~ A method of manufacturing a derived starch, ~~wherein starch modified, comprising deriving a modified starch~~ according to Claim 13 ~~or obtainable through a method according to one of Claims 14, 15, or 16, is derived.~~

18. (Canceled)

19. (Currently amended) ~~Derived~~ A derived starch obtainable ~~based on by~~ a method according to Claim 17.

20. (Canceled)

21. (Currently amended) ~~Flours containing~~ A flour comprising at least one modified starch according to Claim 13.

22. (Currently amended) ~~Flours~~ A flour obtainable from plant cells according to Claim 1 ~~Claims 1 to 6, from propagation material according to Claim 10, or from harvestable plant parts according to Claim 11.~~

23. (Currently amended) ~~Method for the manufacture of~~ A method of manufacturing a flour ~~flours including the step of comprising grinding parts of plants~~ a plant according to Claim 7, ~~or propagation material or harvestable material therefrom~~ Claims 7, 8, or 9, or of propagation material according to Claim 10, or harvestable material according to Claim 11.

24. (Currently amended) A method for manufacturing a flour comprising grinding ~~Use of genetically modified plant cells according to Claim 1 one of Claims 1 to 6, or of plants according to one of Claims 7, 8, or 9 for the manufacture of flours.~~

25. (Currently amended) ~~Nucleic acid~~ A nucleic acid molecule coding a protein with the enzymatic activity of an OK1 protein, selected from the group consisting of comprising:

- a) a nucleic acid molecule coding a protein having the amino acid sequence SEQ ID NO: 2 or SEQ ID NO: 4;~~Nucleic acid molecules, which code a protein with the amino acid sequence indicated under SEQ ID NO. 2 or SEQ ID NO 4;~~
- b) a nucleic acid molecule coding a protein that has an amino acid sequence with an identity of at least 60% with SEQ ID NO: 2 or SEQ ID NO: 4;~~Nucleic acid molecules, which code a protein that has an amino acid sequence with an identity of at least 60% with the amino acid sequence indicated under SEQ ID NO: 2 or SEQ ID NO 4;~~
- c) a nucleic acid molecule comprising the nucleotide sequence SEQ ID NO: 1 or SEQ ID NO: 3, or a complementary sequence thereof;~~Nucleic acid molecules, which contain the nucleotide sequence shown under SEQ ID No. 1 or SEQ ID NO 3, or which contain a sequence complementary to these sequences;~~
- d) a nucleic acid molecule having an identity of at least 60% with a nucleic acid molecule of a) or c);~~Nucleic acid molecules, which have an identity of at least 60% with the nucleic acid sequences described under a) or c);~~
- e) a nucleic acid molecule, which, under stringent conditions, hybridizes with at least one strand of a nucleic acid molecule of a) or c);~~Nucleic acid molecules, which, under stringent conditions, hybridise with at least one strand of the nucleic acid molecules described under a) or c);~~
- f) a nucleic acid molecule, which, due to degeneration of the genetic code, has a divergent nucleotide sequence from the sequence of a nucleic acid molecule of a) or c); or ~~Nucleic acid molecules, which have a divergent nucleotide sequence from the sequence of the nucleic acid molecules mentioned under a) or c), due to degeneration of the genetic code; and~~
- g) a nucleic acid molecule comprising a fragment, allelic variant, and/or a derivative of a nucleic acid molecule of a), b), c), d), e), or f). ~~Nucleic acid molecules, which represent fragments, allelic variants, and/or derivatives of the nucleic acid molecules listed under a), b), c), d), e), or f).~~

26. (Currently amended) ~~Nucleic acid~~ A nucleic acid molecule according to Claim 25, ~~characterised in that which codes~~ an OK1 protein codes from *Arabidopsis* or an OK1 protein codes from rice.

27. (Currently amended) ~~Recombinant~~ A recombinant nucleic acid molecule ~~containing~~ comprising a nucleic acid molecule according to Claim 25 ~~one of Claims 25 or 26~~.

28. (Currently amended) ~~Vector containing~~ A vector comprising a nucleic acid molecule according to Claim 25 ~~one of Claims 25, 26, or 27~~.

29. (Currently amended) ~~Vector~~ The vector according to Claim 28, wherein the nucleic acid molecule is linked with at least one regulatory sequence ~~sequences~~, which initiates ~~initiate the~~ transcription in prokaryotic or eukaryotic cells.

30. (Currently amended) ~~Host~~ A host cell, which is genetically modified with a nucleic acid molecule according to Claim 25 ~~one of Claims 25 or 26~~, ~~with a recombinant nucleic acid molecule according to Claim 27, or with a vector according to Claims 28 or 29~~.

31. (Currently amended) ~~Composition containing~~ A composition comprising a nucleic acid ~~molecules~~ molecule according to Claim 25 ~~one of Claims 25 or 26~~, a recombinant nucleic acid molecule according to Claim 27, or a vector according to ~~one of Claims 28 or 29~~.

32. (Currently amended) A method comprising using the composition of Claim 31 to identify a plant cell having an ~~Use of a composition according to Claim 31 for the identification of plant cells, which have increased activity of an~~ at least one OK1 protein in comparison to wild type plant cells that have not been genetically modified.

33. (Currently amended) ~~Protein~~ A protein, which exhibits starch-phosphorylating activity and needs phosphorylated starch as a substrate.

34. (Currently amended) ~~Protein~~ A protein, which needs phosphorylated starch as a substrate and transfers the residual phosphate of ATP to phosphorylated starch.

35. (New) A vector comprising a recombinant nucleic acid molecule according to Claim 27.

36. (New) A host cell, which is genetically modified with a recombinant nucleic acid molecule according to Claim 27.

37. (New) A host cell, which is genetically modified with a vector according to claim 28.

38. (New) A host cell, which is genetically modified with a vector according to claim 35.

39. (New) A composition comprising a recombinant nucleic acid molecule according to claim 27.